

Abstract

An embolic protection device comprises a collapsible filter element for delivery through a vascular system of a patient. The filter element comprising a collapsible filter body and a filter support frame contacting the filter body. The collapsible filter body has an inlet end and an outlet end, the inlet end of the filter body having one or more inlet openings sized to allow blood and embolic material enter the filter body, the outlet end of the filter body having a plurality of outlet openings sized to allow through passage of blood but to retain undesired embolic material within the filter body. The filter support frame is movable between a collapsed position for movement through the vascular system and an extended outwardly projecting position to support the filter body in the expanded position. The frame has a plurality of engagement segments which are spaced-apart longitudinally and transversely when the filter body is in the deployed expanded configuration to urge the filter body into opposition with the vessel wall. The engagement segments define at least partially a substantially helical engagement track.